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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/820,591	04/08/2004	Nicholas Leavy	1004-128	8114
47654 7590 05/26/2010 BAINWOOD HUANG & ASSOCIATES LLC 2 CONNECTOR ROAD WESTBOROUGH, MA 01581				
EXAMINER				
CHOUDHURY, AZIZUL Q				
ART UNIT		PAPER NUMBER		
2445				
MAIL DATE		DELIVERY MODE		
05/26/2010		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/820,591

Applicant(s)

LEAVY ET AL.

Examiner

AZIZUL CHOUDHURY

Art Unit

2445

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 January 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15, 21-25, 31, 33, 35, 37 and 39 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15, 21-25 and 39 is/are rejected.
- 7) ☒ Claim(s) 31, 33, 35 and 37 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

Detailed Action

This office action is in response to the correspondence received on January 27, 2010.

Allowable Subject Matter

Claims 31, 33, 35 and 37 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 1-15, 21-25 and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over "Network Intrusion Detection: Evasion, Traffic Normalization, and End-to-End Protocol Semantics," by Mark Handley and Vern Paxson in view of Hurst et al (US Patent No: 6,192,404), hereafter referred to as Handley and Hurst, respectively.

1. With regards to claims 1, 6, 11 and 21, Handley teaches through Hurst, a method of blocking attacks on a protected computer network, comprising: receiving a plurality of packets from a network, each said packet having a packet time to live (TTL) value and belonging to a corresponding packet flow (*equivalent to the*

normalizer receiving packets; see p. 6, right column, item 3, Handley); storing the smallest packet TTL value received from each said corresponding packet flow; and prior to transmitting each said packet, setting said packet TTL value to said smallest packet TTL value received for said corresponding packet flow (Handley discloses setting the TTL to the minimum; see p. 9, left column, TTL solution #3, Handley).

While Handley teaches setting the TTL to a minimum based on a path length, Handley does not explicitly teach setting the TTL to the necessarily the smallest packet TTL value. In the same field of endeavor, Hurst also teaches a network that sets the TTL to a minimum based on path length; see column 7, lines 1-13, Hurst. Within Hurst's disclosure, it is taught how the TTL of the packet and the minimum TTL are compared and the TTL is set to whichever is lower; see column 7, lines 27-31, Hurst. Setting a TTL to a particular value can help set a baseline for what TTL a regular packet would have. Hence it would have been obvious to one skilled in the art, during the time of the invention, to have combined the teachings of Handley with those of Hurst to define a TTL for a normal packet to filter out possible network attacks.

2. With regards to claims 2, 7, 12 and 22, Handley teaches through Hurst, the method wherein said storing the smallest packet TTL value comprises:
associating an epoch with said stored smallest packet TTL value; and if said epoch is greater than a predefined value, discarding said stored smallest packet

TTL value *(equivalent to the restoring TTL disclosed by Handley; see p. 9, left column, "Effect on semantics," Handley)*.

3. With regards to claims 3, 8, 13 and 23, Handley teaches through Hurst, the method further comprising periodically resetting said stored smallest packet TTL value to a maximum value *(such steps are performed by the normalizer in Handley's disclosure; see p. 16, right column, item 21, Handley)*.
4. With regards to claims 4, 9, 14 and 24, Handley teaches through Hurst, the method wherein said setting said packet TTL value comprises: determining if said corresponding packet flow is on an unrestricted list; and if said corresponding packet flow is on said unrestricted list, setting said packet TTL value to a maximum value *(Handley's design sets the TTL large to allow the packet to travel unrestricted by time; see p. 4, right column, 4th paragraph, Handley)*.
5. With regards to claims 5, 10, 15 and 25, Handley teaches through Hurst, the method wherein said setting said packet TTL value comprises: determining if said corresponding packet flow is on an unrestricted list; and if said corresponding packet flow is on said unrestricted list, leaving said packet TTL value unchanged *(see p. 15, left column, first paragraph, Handley)*.

6. With regards to claim 39, Handley teaches through Hurst, the method wherein:
for each said packet, said packet TTL value is a value stored within the header of that packet; and the method further comprises transmitting each said packet across the protected computer network, said packet being configured to expire after a number of hops equal to said smallest packet TTL value received for said corresponding packet flow (*A TTL (time to live) defines the time till expiration of a packet. Within Handley and Hurst the TTL is based on the path (number of hops); see column 7, lines 5-8, Hurst and p. 9, left column, TTL solution #3, Handley*).
7. The obviousness motivation applied to independent claims 1, 6, 11 and 21 are applicable towards their respective dependent claims.

Response to Arguments

Applicant's arguments filed January 27, 2010 have been fully considered but they are not persuasive. In lieu of the latest arguments, the 103 rejections to claims 31, 33, 35 and 37 have been withdrawn. However new claim 39 has been rejected. The following are the examiner's response to the applicant's principle concerns.

The first point of contention addressed by the applicant concerns the claim limitation of "setting a packet TTL value to the smallest packet TTL value received for a corresponding packet flow." The applicant contends that the prior arts of record fail to

teach such a claim limitation and that the two arts are not analogous. The examiner respectively disagrees. Both Handley and Hurst teach the setting of network packet TTL based on path length. Handley discloses setting the TTL to the minimum; see p. 9, left column, TTL solution #3, Handley. However Handley does not explicitly teach setting the TTL necessarily to the smallest packet TTL value. In the same field of endeavor, Hurst also teaches a network that sets the TTL to a minimum based on path length; see column 7, lines 1-13, Hurst. Within Hurst's disclosure, it is taught how the TTL of the packet and the minimum TTL are compared and the TTL is set to whichever is lower; see column 7, lines 27-31, Hurst. Setting a TTL to a particular value can help set a baseline for what TTL a regular packet would have. This baseline definition helps identify the TTL for a normal packet and hence, helps filter out suspicious packets from normal ones to thwart possible network attacks.

The second point of contention addressed by the applicant concerns the relevance of the prior arts. The applicant argues that the prior arts are not applicable because they do not teach protecting a network against attacks. This argument is not deemed persuasive. The claimed protecting a computer network is only recited within the preamble of the claims. The recitation "blocking attacks on a protected computer network" has not been given patentable weight because the recitation occurs in the preamble. A preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. See *In re Hirao*, 535

F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951).

The third point of contention addressed by the applicant concerns the limitations of claim 31. After reconsideration of the claim language in light of the arguments, the rejection to claims 31, 33, 35 and 37 have been withdrawn and remains objected to.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to AZIZUL CHOUDHURY whose telephone number is (571)272-3909. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vivek Srivastava can be reached on (571) 272-7304. The fax phone

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number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/A. C./

Examiner, Art Unit 2445

/VIVEK SRIVASTAVA/

Supervisory Patent Examiner, Art Unit 2445